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ABSTRACT

This paper describes an initiative developed at Pittsburg State University, Kansas, that involved radically changing the program's performance-based standards and expanding the structure of the student teaching experiences to include multiple avenues of training and assessing teacher development. The paper: (1) identifies characteristics in each of the process stages involved with developing a knowledge base centered on current best practices and performance-based standards; (2) outlines the development of two field experience structures: a two-semester Professional Development School (PDS) model and a more traditional professional semester approach; and (3) presents the statistical data, analysis, and interpretation of an experimental study done with both teacher training orientations. The study used the Teacher Needs Assessment Questionnaire, which measured teacher developmental stages. The study results indicated that PDS teacher candidates had a higher perception of needs than did traditional teacher candidates and were more aware of their need to develop skills measured in the instrument. Both groups showed the highest need in the survival stage. The paper concludes with recommendations for further investigation. (Contains 16 references.) (SM)

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A Journey of Change: Redefining and Assessing A Multifaceted Teacher Training Program

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How can teacher educators implement performance-based standards and ensure quality field experiences? How can the story be told in a time of accountability? Providing an organized framework and structuring meaningful experiences for training future teachers is a key challenge for teacher educators. This paper presents an innovative initiative developed at one university where not only the program's performance-based standards were radically changed, but the structure of the student teaching experiences was expanded to include multiple avenues of training and assessing teacher development. The major objectives of the paper are to:

1. Identify the characteristics in each of the process stages involved with developing a knowledge base centered on current best practices and performance-based standards.

2. Outline the development of two field experience structures, a two-semester Professional Development School model and a more traditional professional semester approach.

3. Present the statistical data, analysis, and interpretation of an experimental study done with both teacher training orientations, using a unique needs assessment instrument that measures teacher development stages.

Knowledge Base Development

Over the past ten years the School of Education at Pittsburg State University has been using an outcomes–based approach to the education of its teacher candidates. In 1991, after identifying 112 effective teaching behaviors, performance expectations were written for each of these behaviors and were sequenced throughout the professional preparation of each teacher candidate. Utilizing the theme of "Competent, Committed, Caring teachers," all teacher education courses were organized around the behaviors with each syllabus identifying the specific behaviors modeled and taught. During the final student teaching experience, eighty-six of these behaviors are formally assessed by a university supervisor, an academic supervisor, and a cooperating teacher using the "Student Teacher Guidance Sheet".

While continuously reviewing this knowledge base, a consensus developed among faculty that there was a need to update and condense the indicators to better parallel best practices literature and the university's changing teacher training orientation. With this in mind, Dr. Tom Bryant,

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Dean of the College of Education appointed a "Knowledge Base" committee with members representing all teacher preparation stakeholders in the Pittsburg State University Teacher Education Program. The charge to the committee was to review best practice literature, national standards, various PSU teacher education committee recommendations (such as Multicultural, Technology, and Professional Development School plans), and to once again write the behaviors as measurable outcomes. Appointed in June 1998, the 12 member committee comprised of students, practicing teachers, school administrators, and university faculty from different areas, was given a year to complete its task.

To meet its charge, the committee agreed to meet at least twice a month during the academic year and organize its efforts in a sequential time line. Working within a subcommittee format to complete tasks, the committee worked through five stages:

Readiness
Understanding PSU's Mission, Model and Knowledge Base
(What we believe and do)

Assessment
Collecting and Analyzing Information
(What we know)

Development of Recommendations
Brainstorming, Prioritizing, Drafting, and Reaching Consensus on Recommendations
(What we want)

Trial Evaluation and Revision of Recommendations
Identifying Problems with Implementation and Critically Analyzing Recommendations
(What we can do)

Presentation of Final Report
Exhibition and Publicity of Recommendations
(What we did)

Using this framework, the committee met 14 times throughout the school year and completed its charge.

The committee began by examining the current university teacher education program. Next, the committee turned its attention to current trends and research in American teacher training. Various subcommittees analyzed and reviewed indicators from a number of reports, studies, and literature. Among those considered were:

A. Interstate New Teachers Assessment and Support Consortium
B. Kansas Early Career Teacher Professional Development Program
C. PSU's Student Teacher training and employment data
D. Current best practices research (General and Special Education)
E. National Certification literature

F. PSU's Multicultural, Technology, PD school plan
G. Gallup Selection Criteria
H. Secretary's Commission of Achieving Necessary Skills (SCAN's Report)
I. Praxis Testing

A composite of behavioral indicators derived from this study of national standards, major educational reports, teacher testing, research studies, and best practices research was then derived. Using different fonts to identify the source, over 500 indicators were written and grouped by the traditional headings of Professional Characteristics, Relationships with Students, Lesson Preparation, Lesson Presentation, Classroom Management, Evaluation. Subcommittees representing each of these areas then synthesized, prioritized and drafted recommendations to present to the entire committee. From these recommendations, the committee reached consensus on 68 indicators. The committee reviewed the various outcomes and narrowed the indicators to a workable number using a projection displayed computer screen. To perfect wording several techniques were used to reach consensus, among them the Fist of Five and ABC techniques.

Once consensus was reached on the first draft, the committee then asked various university bodies to review the indicators. After several rounds of feedback, potential wording and assessment problems were identified and corrected with one indicator added. To perfect the indicators, the outcomes were arranged in a sequential order under specific headings and packaged to develop a "Committed, Caring, and Competent Professional Educator". Again, the various university groups were asked to provide feedback. After this round of feedback, the indicators were finalized and brief statements were written which synthesized the training orientation for each of the six subgroups.

The summary of stages, activity, and time line for the process were as follows:

Summary of Stages and Activity

Readiness **Aug 26, Sept 9**

Understanding PSU's Mission, Model and Knowledge Base
(What we believe and do)

Reviewed:
A. **PSU's Teacher Education Knowledge Base Development**
B. **PSU's 112 Behavioral Indicators and Definitions**
C. **Field Supervision of Teacher Candidates**

Assessment **Sept 23, Oct 7, Oct 21, Nov 11**

Collecting and Analyzing Information
(What we know)

Collected indicators from subcommittees:

A. **Interstate New Teachers Assessment and Support Consortium**
B. **Early Career Teacher Professional Development Program**
C. **PSU's Student teacher data**
D. **Current best practices research (General and Special Ed.)**
E. **National Certification literature**
F. **PSU's Multicultural, Technology, PDS plan**
G. **Gallup Selection**
H. **Secretary's Commission of Achieving Necessary Skills (SCAN's Report)**
I. **Praxis Testing**

Recommendations **Dec 9, Jan 20, Feb 3, Feb 17**

Compiling, Prioritizing, Drafting, & Reaching Consensus on Recommendations
(What we want)

A. Compiled master list of over 500 indicators from all subcommittees
B. Subcommittee Reports Prioritized and Drafted Recommendations
   Professional Characteristics
   Relationships with Students
   Lesson Preparation
   Lesson Presentation
   Classroom Management
   Evaluation
C. Knowledge Base Committee Reached Consensus on Draft

Trial Evaluation and Revisions **March 3, 17, 31**

Identifying problems with implementation & critically analyzing recommendations
(What we can do)

Asked various groups to critique:

A. **Secondary Teacher Coordinating Committee**
B. **Council for Teacher Education**
C. **Dept of Curriculum and Instruction**

April Presentation of Final Report **April 1**

Field Experience Structures

To train the teacher candidates, two approaches to training preservice teachers have been developed and are presently being implemented.

Traditional Professional Semester Model

The first approach represented in the study was the traditional teacher education program where students completed methods/techniques courses on campus and completed the professional semester with a full semester of student teaching. The development of the original Pittsburg State's teacher training model commenced in 1972 with the closing of two laboratory schools located on the campus, College High and Horace Mann Elementary. Representatives of the university, area community colleges, and public schools were asked to help plan a new program. The decision was made to change as much as possible to a field-based program. After a 2-3 year period of trial and error, the current supervisory model used in the traditional program was developed and has been polished over time. Today, teacher candidates are "in the field" in their sophomore and junior year and for their entire last semester. During this culminating 16-week "Professional Semester," the student teachers return to campus for the first eight Thursdays. These sessions include group discussions, seminars, and fulfillment of assignments for academic credit.

In many models of student teacher supervision, the relationship between the student teacher and university supervisor is ineffectual. Colleges of Education often view the role of the university supervisor as one that anyone can do. Frequently, supervisory positions are filled by faculty members who fail to have a full work schedule; by adjunct faculty; by graduate students; or, by public school personnel. These and other problems are hopefully avoided in the PSU model where permanent supervisors are part of the teacher preparation program. By retaining full-time, tenure-track supervisors, there is a higher degree of consistency with the overall quality of the program. First, future student teachers have the opportunity to become acquainted with the supervisors prior to the semester of student teaching. Second, supervisors have the opportunity to build a support base with the other supervisors. Less experienced supervisors can seek the advice from those who "know the territory." Third, a strong bond can be built between the supervisor and public school personnel. Principals and cooperating teachers anticipate a positive experience once this bond has been developed. This relationship also lessens the stress level for the student teacher. Granted that there is no ideal model of student teacher supervision, this model has served Pittsburg State well.

Professional Development School

The second approach being implemented follows the Professional Development School (PDS) model (Darling-Hammond, 1994). In the spring of 1996, the Department of Curriculum and Instruction at Pittsburg State University and USD 250, Pittsburg collaborated to bring Project PLUS (Partnership Linking University and Schools) to Westside Elementary School. This program matched elementary education majors taking the Methods of Mathematics course with classroom teachers in a real world setting. Each Intern (senior elementary education major) observed six and taught six whole class mathematics lessons and participated in a school wide

Mathematics Carnival. This project was in addition to the two Traditional program Pre-Professional Laboratory experiences (66 contact hours in two different elementary classrooms), Reading and Language Arts Practicum, Science Discovery lesson, and other activities which allowed teacher candidates to work with teachers and students in classroom settings.

Feedback provided by interns (first semester professional development school teacher education students), classroom teachers, and the methodology instructor, indicated that all believed Project PLUS was of great benefit to all partners. While the response was positive, everyone involved believed that a longer and more intensive classroom experience would yield an even better prepared first year teacher. The Professional Development School approach was believed to be the model by which to provide the longer more intensive experience.

In 1998, the PSU College of Education, USD 250 in Pittsburg, KS, and USD 249 in Frontenac, KS, joined together to develop a Professional Development School Partnership. After reviewing the literature, participating in PDS conferences, and visiting PDS sites, a Professional Development School plan and mission statement were presented to the Council for Teacher Education and the administrations of the two school districts.

> The mission of the participating P-12 schools in partnership with Pittsburg State University was to:
>
> 1. continue to improve the quality of education for area P-12 students by utilizing research-based techniques and teaching strategies;
>
> 2. provide pre-service teachers with an authentic experience which effectively utilizes unique elements of a diverse student population and experienced, professional staff in area schools;
>
> 3. encourage and stimulate the participating P-12 schools and PSU instructional faculty to develop professionally through continuous collaboration and interaction so that the community of life long learners is better prepared to live and work in an ever- changing society.

In August of 1998, a PDS director was named and a PSU/PDS mini-conference was held. Plans were developed for implementation of the model and teachers, administrators, students, and faculty were recruited to serve on the advisory board. PSU and its partner schools joined the Kansas Coalition for Professional Development Schools in 1999. This organization consists of PDS Teacher Education programs and partnerships across the state of Kansas. It meets twice each semester and once during the summer.

Elementary Education majors at the sophomore and junior levels participate in two pre-professional laboratory experiences (33 contact hours in each of two different grade level placements), Science Discovery, Children's Literature Oral Reading Project, and Primary Reading Field Experience.

In the spring semester of the junior year, elementary education majors complete an application form and participate in an interview with mentor teachers and university faculty. In order to

participate in the partnership, interns must be admitted to the PSU Teacher Education program by the beginning of the fall semester. Mentor teachers are volunteers who complete an application form and participate in the Intern interview. As in the Traditional program, each mentor teacher is recommended for participation in the partnership by her/his building principal.

Action Research [AR] is an important component of the partnership. Mentor teacher/intern teams attend an Action Research workshop in the summer and collaboratively design an Action Research project. During the 1999 summer workshop, fifteen intern/mentor teacher teams designed ten different Action Research projects. AR projects are implemented over the course of the school year by the mentor teacher/intern teams. Study groups are held twice per semester and each team completes a year end report on their project.

During the fall semester PDS elementary education majors spend fifteen (15) hours per week in a classroom working with the mentor teachers on an action research project and take methodology courses in mathematics, social studies, and two reading courses. As in the Traditional program, they conclude their teacher education program with a sixteen-week student teaching experience during the spring semester in the same classroom.

The Assessment Instrument

What seemed to be missing in the evaluation system of these two approaches was a quantitative means of assessing the teacher candidate's own perception of development. No formal College of Education instrument was available to collect data on the candidate's own perception of professional need as he or she developed. To provide an instrument for self–evaluation which provided a developmental framework, the Teacher Needs Assessment Questionnaire (TNAQ) was used. Over a period of years, a number of studies have been done and changes made on the instrument (Runyan, Sparks, et. al., 1993, 94, 95, 96).

Numerous researchers have examined developmental stage differences of teachers (Fuller and Brown, 1975; Hall and Jones, 1976; Pataniczek, 1978; Hunt and Michael, 1985; Cruickshank and Callahan, 1983; Hitz and Roper, 1986; and Smith and Sanche, 1993). From these theoretical frameworks, the developmental stages teachers' experience, as they relate to the specific training program outcomes of Pittsburg State University, have been operationalized in the TNAQ. Using as a basis the Fuller and Brown stages - survival, mastery, and impact - the researchers assigned each of the 49 TNAQ items to one of the three stages - Establishing Structures, Developing the Science of Teaching, and Cultivating the Art of Teaching. Using the five factor areas identified in studies previously conducted using the instrument, interest areas were also identified using all of the 49 instrument items. A computer program was then developed that could tabulate the means and display individual and group results.

The Teacher Needs Assessment Questionnaire contains forty-nine different instructional statements and role characteristics associated with Pittsburg State's Effective Teaching Skills Program. The assessment tool was designed to measure specific instructional and professional needs by examining the student's own perception of importance, mastery, and desire to improve.

For each of the forty-nine given statements, students were asked to respond to three questions:

A. To what extent is the activity important in your teaching.
B. To what extent do you feel you accomplished the activity?
C. To what extent do you wish to improve on this activity.

For each of these three questions the student teacher responded using a five-point scale with low numbers representing low extents and high numbers representing high extents.

Using these three perceptions, a fourth score, a Need/Desire (N/D) score, was numerically derived which represented the student teacher's own perception of need and desire to work in each area. Using the Teacher Needs Assessment Answer Sheet, this need/desire score was tabulated for each of the forty-nine items by subtracting (B) the student's perception of the extent of accomplishment from (A) the perceived importance and adding (C) the desire to improve on the activity. Using the above three question letter identifications, the formula would thus be $(A - B) + C = ND$.

It was the Need/Desire score (ND) that was used to establish individual and class need priorities, stage development, and interest area identification. The researchers took the position that to establish a need there should be a perception that it is important, that it is not presently being done well, and that there is an aspiration to improve. In essence, if the teacher thought that the activity was important in his or her teaching; felt that he or she didn't accomplish the activity very well; and, had a strong desire to improve in this area, the ND score would be high. These need/desire scores could then be ranked from 9 to –3 and prioritized to help set target areas for future study and improvement.

To help identify developmental stages and interest areas, each of the 49 items were grouped according to their focus. The three stages - Establishing Structures, Developing the Science of Teaching, and Cultivating the Art of Teaching - were aligned with Fuller and Brown's stages - Survival, Mastery, and Impact. Characteristic of each stage as synthesized from the items is listed below.

Establishing Structures
(Survival)

Acquiring supplies and establishing room layout
Knowing school policies, norms and culture
Building collegial staff relationships
Establishing classroom procedures and routines
Setting rules and reinforcing them to gain respect of students
Expanding subject matter knowledge
Lesson planning for high time on task
Coping with evaluation, other's opinion, and fear of failure
Knowing parents and opening lines of communication

Developing the Science of Teaching
(Mastery)

Using various models of teaching correctly
Acquisition of innovative techniques, activities, and ideas
Asking classroom questions effectively and providing review and practice
Providing timely assignment feedback and furnishing justification for grades
Clear direction giving, illustration, and transitions so classroom activities move smoothly
Identifying learning styles, characteristics, and needs of class
Providing sponge activities to keep students busy
Managing time pressures

Developing the Art of Teaching
(Impact)

Being novel, vivid, and varied in teaching strategies
Achieving equity in monitoring, questioning and feedback
Showing high expectations for every student and motivating all students to succeed
Striving to meet the individual academic, emotional and social needs of students
Developing consistency in enthusiasm, fairness and humorous disposition
Being a role model that shows empathy, warmth, and respect to each student

Using these domains, the instrument's tabulations could be valuable in recognizing and specifically identifying the factors in progressing as a professional educator. Presently, the instrument is being used in several different ways with pre-service teachers during the Professional Semester at Pittsburg State and early career teachers in the Kansas Goals 2000 Induction Program.

METHOD and FINDINGS

The focus of this study was to identify any significant differences between the developmental stages and needs of teacher candidates in the Professional Development School (PDS) program and those in the Traditional training model. The established knowledge base was evaluated by analyzing results gathered from a needs based instrument proven to identify developmental stages pre-service and experienced teachers go through as they gain experience. The needs assessment instrument (TNAQ) was administered to all Pittsburg State University professional semester students (n=90) at the beginning of the semester (pre) and again on the final day of the semester (post).

The PDS group consisted of elementary education majors (n=15) who had been accepted into the Professional Development School program. These students completed the required field experiences for elementary education majors in the Traditional program, and additionally, they had spent a minimum of 15 clock hours per week at their professional semester field-placement site throughout the 16-week fall semester.

The Traditional group included the remainder of the professional semester students, both elementary and secondary education majors (n=75), who would be going to their placement site the day following completion of the TNAQ at the beginning of the spring professional semester. The Traditional group completed only the required fieldwork experiences with clock hours ranging from 33-100 hours, depending on their major.

The pre- and post-inventory data were submitted to a series of t-tests for independent samples. First, the pre-inventory results between the PDS program teacher candidates and the traditional program teacher candidates were analyzed. Next, the post-inventory data were analyzed. Significant differences were found at all of the developmental stages (Survival, Mastery, and Impact). Further, significant differences existed in all interest areas (Support System/Procedures, Planning, Classroom Management, Teaching Strategies, and Interpersonal Interactions). A review of the post-inventory data resulted in no significant differences at any of the stages of development or any of the interest areas. (See Table 1)

The next step taken was to submit the pre- and post-inventory ratings to another series of t-tests for independent samples with only elementary education teacher candidates. The first group was, again, the PDS program teacher candidates and the other group was the traditional program teacher candidates. This analysis resulted in significant differences in pre-inventory data in the stages of Survival and the interest areas of Support Systems/Procedures and Planning. Again, there were no significant differences between the two elementary groups on the post-inventory results. (See Table 2)

DISCUSSION

From the analysis of Table 1 that compared elementary PDS teacher candidates to Traditional elementary and secondary teacher candidates, several conclusions were reached:

1. In examining Table 1, there were significant differences in all eight areas of the pre-inventory between the two groups. This would support the idea that the PDS teacher candidates had a higher need perception of the 49 need indicators.

   This would tend to indicate that PDS teacher candidates are more aware of their need to develop skills measured in the instrument. During the fall semester they witnessed what is needed in the classroom to effectively perform the 49 indicators. In other words, they know now what they don't know.

2. In examining Table 1, there were no significant differences in the eight areas of the post-inventory between the two groups. This supports the idea that the different training orientations created no significant differences in the 49 need indicators after completing the 16-week professional semester.

3. Further examination of Table 1, consistent with past studies, indicates that both the PDS and Traditional teacher candidates showed the highest need level in the Survival Stage. This supports the theory that teachers go through a sequence of developmental stages.

4. Also in examining Table 1, though not significant, PDS teacher candidate post-inventory scores were higher in all areas except Classroom Management and Interpersonal Interactions. This would seem to support that the awareness of needs by PDS teacher candidates was consistent throughout the professional semester.

From the analysis of Table 2 that compared elementary PDS teacher candidates to Traditional elementary teacher candidates, several conclusions were reached:

1. In examining Table 2, there were significant differences in three pre-inventory areas of Survival, Support Systems/Procedures, and Planning. This could support the idea that pre-field placements of the Traditional teacher candidates provided experiences that lessened their perceived needs and that the additional semester of field placement of the PDS students increased awareness of perceived needs in the three areas.

   Operating at a deeper level of need in the Survival stage, the PDS teacher candidates perhaps realize the need to develop the skills identified in this stage and the corresponding interest areas of Support Systems/Procedures and Planning when compared to the Traditional elementary teacher candidates.

2. Further examination of Table 2, found significant differences between pre- and post-inventory results for PDS teacher candidates in all eight areas. This could support the theory that the PDS experience results in a significantly greater lessening of need perceptions in all of the stages and interest areas.

3. In examining Table 2, there were no significant differences in the eight areas of the post-inventory between the two groups. This supports the idea that the different training orientations created no significant differences in the 49 need indicators after completing the 16-week professional semester for elementary teacher candidates.

4. Further examination of Table 2, consistent with past studies, indicates that both the PDS and Traditional teacher candidates showed the highest need level in the Survival Stage. This supports the theory that teachers go through a sequence of developmental stages.

5. Also in examining Table 2, though not significant, PDS teacher candidate post-inventory scores were higher in all areas except in Interpersonal Interactions. This would seem to support that the awareness of needs by PDS teacher candidates was consistent throughout the professional semester.

RECOMMENDATIONS

Given these conclusions, the researchers believe further investigation is needed. These include:

1. To what extent are elementary teacher candidates enrolled in the PDS program different from the Traditional teacher candidates when entering the fall semester?

2. To what extent would increased emphasis on orientation to Support Systems/Procedures and Planning with PDS teacher candidates during the fall semester lessen the perceived needs in the Survival stage and interest areas?

3. To what extent would increased formal planning and teaching by PDS teacher candidates during the fall semester lessen the overall perceived needs in all stages and interest areas?

4. Since in the end, both training programs seem to produce no significant differences in need perceptions, are there other indicators, instruments or data that could be used to illustrate outcome differences?

Table 1: Comparison of Teacher Preparation Program and Pre- and Post-Inventory Identified Needs for All Teacher Candidates, Elementary and Secondary Levels

Stages	*Mean PDS*	*Mean Traditional*	*Significance*
Survival – Pre	6.0533	5.0859	0.0004*
– Post	5.2967	5.1848	0.3221
Mastery – Pre	5.5600	5.0445	0.0301*
– Post	5.3380	5.0552	0.1282
Impact – Pre	5.6247	5.0909	0.0238*
– Post	5.1587	5.1113	0.4246
Interest Areas			
SS/P – Pre	6.3327**	5.1544	0.0001*
– Post	5.4000**	5.2387	0.2759
Planning – Pre	5.8000**	5.0181	0.0038*
– Post	5.2340**	4.9536	0.1251
Class Mgmt – Pre	5.7520**	5.0780	0.0116*
– Post	5.2480**	5.2537	0.4905
Tea Strategies – Pre	5.6300**	5.0575	0.0184*
– Post	5.3247**	5.0703	0.1533
Interpersonal – Pre	5.5400**	5.0271	0.0314*
– Post	4.9827**	5.0791	0.3515

* $p < .05$

** Significant difference between pre- and post-inventory perceived needs

Table 2: Comparison of Teacher Preparation Program and Pre- and Post-Inventory Identified Needs for Teacher Candidates, Elementary PDS and Elementary Traditional Programs

Stages	*Mean PDS*	*Mean Traditional*	*Significance*
Survival – Pre	6.0533**	5.1976	0.0077*
– Post	5.2967**	5.1609	0.2890
Mastery – Pre	5.5600**	5.2547	0.1652
– Post	5.3380**	5.1353	0.2188
Impact – Pre	5.6247**	5.2621	0.1254
– Post	5.1587**	5.1538	0.4925
Interest Areas			
SS/P – Pre	6.3327**	5.2300	0.0014*
– Post	5.4000**	5.1768	0.2008
Planning – Pre	5.8000**	5.1721	0.0437*
– Post	5.2340**	5.0003	0.1885
Class Mgmt – Pre	5.7520**	5.1762	0.0611
– Post	5.2480**	5.2312	0.4723
Tea Strategies – Pre	5.6300**	5.2668	0.1236
– Post	5.3247**	5.1541	0.2517
Interpersonal – Pre	5.5400**	5.2174	0.1565
– Post	4.9827**	5.0909	0.3365

* $p < .05$

** Significant difference between pre- and post-inventory perceived needs

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